MINUTES FROM THE EPA/SCIENCE ADVISORY BOARD
Environmental Economics Advisory Committee Meeting
November 12, 1999

PURPOSE: The Environmental Economics Advisory Committee (EEAC) met in Washington, DC. The EEAC conducted a consultation with EPA representatives on induced transportation demand, received a briefing on EPA's activities directed toward prioritizing economic research needs, discussed EPA economic analysis needs with two senior Agency officials, and considered its FY 2000 calendar. The meeting was announced in the Federal Register at FR Vol. 64, No. 205, Pages 57452-57455 (October 25, 1999) (see Attachment A). An agenda is included as Attachment B.

LOCATION: The meeting was held at in the US Environmental Protection Agency Science Advisory Board's conference room, Room 6013, Ariel Rios North; 1200 Pennsylvania Avenue, NW, Washington, DC.

PARTICIPANTS: The following SAB members, consultants, and staff participated in this meeting of the EEAC: Drs. Robert Stavins (Chairman), Dallas Burtraw, Trudy Cameron, Herman Daly, Jose Gomez-Ibanez (consultant), Lawrence Goulder, Dale Jorgenson, Catherine Kling, Richard Revesz, Jason Shogren, and Hilary Sigman. A committee roster is included as Attachment C to these minutes. EPA Staff and persons from the public who attended the meeting are indicated on the sign-in sheets (Attachment D).

MEETING SUMMARY: A summary of the committee's activities follows.

(9:09am) Welcome and Introductory Remarks; Dr. Robert Stavins, Harvard University

Dr. Stavins called the meeting to order, welcomed the committee and observers, and noted the items for the day's agenda. The members identified themselves by name, title, and institution and addressed their independence from the issues on the day's agenda. No conflicts of interest were noted; however, the Chairman because of his own choice as chair volunteered additional information about his support from EPA under an RFF cooperative agreement on abatement cost heterogeneity; EPA support for work on the Intergovernmental Panel on Climate Change; and his work for the law firm of Paul, Hastings, Janofsky & Walker, representing electric utilities on NO_x tradeable permit allocations in deliberations before EPA.

(9:25-10:30am) An Interaction with Mr. Richard Farrell, Associate Administrator for Policy, Economics and Innovation, US EPA.

Mr. Farrell welcomed the Committee and thanked them for their invaluable advice in the past which helps to ensure that EPA does credible economic analysis. He discussed the new organizational structure of his office and its role as an incubator for new ideas for EPA's programs, as a place where economic issues are identified and addressed, and a place to catalyze new ways of doing EPA's business. He noted the importance of environmental economics in the new organization. Important future EPA topics of relevance to the EEAC include: economic incentives, the benefits of Project X-L, training on the new economic analysis Guidelines, and the value of reduced environmental cancer risks.

In response to member questions, Mr. Farrell noted a willingness for OPEI to pursue environmental economic issues associated with international trade; affirmed the importance of the new EPA Center for Environmental Economics within the new organizational structure and his commitment to continuing its excellence and focus on policy-relevant issues; his desire to have the EEAC review EPA's approach to valuing the X-L program's projects; and the desire to anticipate future economic issues EPA will have to address.

(10:30-10:45 am) BREAK

(10:45-11:30am) An Interaction with Mr. Robert Perciasepe, Assistant Administrator for Air and Radiation (OAR), US EPA.

Mr. Perciasepe noted that OAR is a major user of economic analysis at EPA. They believe that such analyses help build the program's credibility both within and outside of EPA. He sees a number of challenges to the agency in the area of economic analysis:

a) How to reflect what he sees as the broader values to society that should be assigned to a clean environment, not just the individual values he attributes to studies that elucidate an individual's willingness-to-pay;

b) Discounting: most EPA programs have benefits over the long term: the blind application of discounting can give answers that seem unreasonable;

c) Uncertainty: How can one characterize uncertainty appropriately for the variety of options that are considered by decision makers; and

d) The need to monetize a broader range of things that decision makers see as having value.

Mr. Perciasepe noted in response to a number of questions that the program offices in EPA need to have the broad economic knowledge reflected in the literature and EPA's Guidelines developed into analytical applications; he sees value in lending support to the place of economic analysis "at the table" among the many other factors that are considered during policy development; that even though well-designed benefit-cost analyses should capture what many refer to as broader social values, there remains an impression with many policy makers that these things are missing from benefits assessments; that major economic analyses at EPA are the product of multiple offices working together, not just isolated analysts in one program; and that economic analysis of climate change issues is very important because it focuses on the life-blood of the world economy (fossil fuels)–the movement of the climate change program to a program office reflects this and its status as a program to be implemented through direct involvement among government institutions and other stakeholders.

(11:45 am -12:40 pm) EPA's Economic Research Priority Assessment; Dr. Elizabeth McClelland, US EPA/OPEI

Dr. Stavins reminded members of the Committee's Advisory for the Administrator on "Economic Research Topics and Priorities," dated September 1998. He noted that the EEAC might be asked to comment formally on EPA's final assessment of economic research priorities and that the purpose of this briefing is to provide some preparation for potential future work.

Dr. McClelland discussed EPA's "Environmental Economics Research Priorities Assessment." Inputs to the assessment included the 1998 survey of EPA economists, the EEAC's Advisory or Economic Research Topics (September 1998), and EPA's own administrative initiatives. The result of EPA's combining these parts led to their economic research priorities (see Attachment E). The high priority areas included valuation of ecosystem benefits from environmental improvements, valuation of morbidity/mortality (especially in vulnerable populations), valuation of other welfare and non-use benefits, social costs and direct/indirect costs, incentives, portrayal of uncertainty, evaluation of equity and distributional effects, effects of regulation on innovation, and compliance and corporate behavior. The agency document on economic research should be available in about one year.

The Committee supported EPA's conduct and support for economic research and recommended that EPA draft a short article for one of the existing economic newsletters and journals to give their membership a heads up on what economic research topics are of interest to EPA.

(12:40-2:00 pm) Consultation on Induced Travel

Dr. Stavins initiated the SAB Consultation on EPA's examination of "induced travel," a topic which the EEAC discussed briefly at its April 20, 1999 meeting. The Consultation involved a brief presentation on the topic by EPA staff, and then a discussion, keying off of the presentation but building mainly on the written product that was sent to us. Dr. Stavins introduced the EEAC's expert consultant for this project: Dr. Jose (Tony) Gomez-Ibanez.

The charge from the Agency reads — in part — as follows:

> The theory of induced growth in vehicle travel hypothesizes that increases in the carrying capacity of a specific highway corridor or highway network will result in an increased level of vehicle traffic. The principal questions for the Science Advisory Board with regard to induced travel and demand elasticity are:
>
> > 1) Is the theory of induced travel from the provision of highway capacity consistent with economic theory?
> >
> > 2) Does the analytical methodology used in recent research–specifically the use of the econometric fixed effects statistical models– test the hypothesis of induced travel over the highway networks during the time periods studied?
> >
> > 3) Do the empirical results of the recent research support a conclusion that induced travel has historically occurred over the national and state highway networks during the time periods studied?

Dr. Stavins introduced Mr. Alex Cristofaro, Director, EPA/Office of Policy Development, and Dr. Lewison Lem, Energy and Transportation Sectors Division, who made the Agency's presentation (see Attachment F for EPA's background paper on this topic). In addition, a previous EPA project officer for Inducted Travel, Robert Noland, participated via telephone. The agency presentation covered the definition of induced travel, why it is important to EPA, and induced travel as part of a larger research program (See Attachment G).

Induced Travel (IT) is the increase in total vehicle miles of travel on a highway network resulting from increasing highway capacity, beyond that which results from population growth, changes in income, and other exogenous variables (e.g., demographics, auto ownership, etc). EPA's interest in IT stems from its linkage to Clean Air Act requirements to consider increases in air pollutant emissions and their relation to conformance to Transportation Plans and State Implementation Plans under that Act. Secondarily, EPA has to review Environmental Impact Statements under NEPA for such projects. EPA discussed the literature and their own research on IT and the complexities in measuring IT effects.

Dr. Gomez-Ibanez noted agreement with much of EPA's literature review noting it is consistent with economic theory and that the IT phenomenon has been demonstrated to occur (charge questions 1 and 3). However, the real issue is "how much?" Even though there is much direct and indirect evidence of an IT effect, there are many things that affect vehicular miles traveled (VMT). Determining causality for the effect is not straight forward, and causality has not been clearly attributed to any specific factor nor has it been allocated among the contributing factors. Dr. Gomez-Ibanez noted some issues about a number of the studies discussed in EPA's background document (inadequacy of fixed-effects in assigning causality; whether lane-miles preceding increased VMT suggests causality; variables in the Noland paper may provide an IT upper bound, but do not solve the causality question; and characterizing the goal of transportation policy as congestion reduction). He also stated a concern with the paper's implication that estimation of IT should be a part of all highway project evaluations. He encouraged the agency to be humble in its use of the IT information.

Other members also noted concern with the use of panel data; the vulnerability of the methodology to serious econometric critique apart from the causality issue; and implications about the analysis that suggest an agency position on the welfare effect of IT (negative). The committee considered this to be a worthwhile issue to continue to explore.

(2:00 pm) Discussion of New Tasks and Topics or EEAC Consideration

EEAC members discussed possible future projects with the Agency. The following possibilities were discussed and in some cases firm commitments were made.

a) **PACE Workshop**: The agency asked for and the EEAC indicated a willingness to cosponsor this workshop. The issue will be discussed with the SAB Executive Committee.

b) **Children's Health Valuation Handbook**: This handbook has been considered by the Children's Health Public Advisory Committee Economics Workgroup. It was developed by EPA with the assistance of outside economists. Dr. Cameron is a member of this Work Group. The issue was characterized as one in which one strongly dissenting voice objects to the agency draft handbook based on normative concerns over the use of benefit-cost analysis for children's issues. Some on the committee noted a willingness to hear the dissenting views on this handbook; however, the committee decided that given the heavy schedule facing it this year to defer to the CHPAC efforts already conducted.

c) **GAO study *Assessing the Impacts of EPA's Regulations Through Retrospective Studies***: One members asked if the committee might want to add its advice on this issue to the debate. The committee declined to schedule any action now given the agency has not made a request to the SAB in this regard.

d) **Value of Cancer Fatalities**: This issue grew from the OMB review of the proposed drinking water regulation on radon. The EPA regulatory impact analysis (RIA) and the National Academy of Sciences radon risk report did not consider a variety of adjustments to benefits of risk reduction alternatives evaluated for the proposal (prominent is the period of latency between exposure to a carcinogen and its manifestation in humans). The agency white paper and case studies are to be sent to the SAB for review. The EEAC noted its willingness to conduct the review.

e) **Evaluation of the benefits of Project X-L**: The agency is developing a method to evaluate the benefits of these projects and will apply the method to a number of existing projects. They would like to have the EEAC's review of the method prior to completing the method and its application to the full set of projects. The EEAC indicated a willingness to conduct the review.

f) **Cost Savings Associated with Economic Incentives in Environmental Protection**: Dr. Carlin's document on past use is available. The issue is of interest to the EEAC if the agency submits a request.

g) **Value of Right-to-Know Information:** This was noted as a future project and the EEAC indicated an interest in it when it is completed.

(2:50 pm) The meeting was adjourned.

I certify that these minutes are accurate to the best of my knowledge.

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Dr. Robert N. Stavins
Chairman
Environmental Economics Advisory Committee

Mr. Thomas O. Miller
Designated Federal Officer
Environmental Economics Advisory Committee

ATTACHMENTS:

A Federal Register Notice
B Meeting Agenda
C Committee Roster
D Sign-in Sheets
E EPA Environmental Economics Research Priorities Assessment
F *Induced Travel: A Review of Recent Literature With a Discussion of Policy Issues*
G Induced Travel: Does Additional Highway Capacity Influence Travel Demand? Overheads